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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,369	07/12/2000	David Mun-Hien Choy	AM9-99-0209	2248

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EXAMINER

WOO, ISAAC M

ART UNIT

PAPER NUMBER

2172

DATE MAILED: 07/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/614,369

Applicant(s)

CHOY ET AL.

Examiner

Isaac M Woo

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/12/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 18-22 have been renumbered 15-19.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Burns et al (U.S. Patent No. 6,088,694, hereinafter, "Burns").

With respect to claim 1, Burns discloses the system and computer program product for providing referential integrity (col. 1, lines 60-67 to col. 2, lines 1-19 and col. 10, lines 31-60) for heterogeneous link (col. 1, lines 66-67 to col. 2, lines 1-13), comprising:

RDBMS (col. 1, lines 44-59) providing referential integrity (col. 9, lines 10-21) for homogenous link, see (col. 2, lines 55-67 to col. 3, lines 1-54); and

software layer on top of the RDBMS for causing the RDBMS to provide referential integrity for heterogeneous link, see (col. 2, lines 55-67 to col. 3, lines 1-54, Note: disclosed system of Burns is RDBMS which guarantees data reference integrity and has data links to binary data (heterogeneous links, different data type links) and text data type (homogeneous links, same data type links), thus, it is inherent that links comprises for heterogeneous links and homogeneous links).

With respect to claim 2, Burns discloses the software layer maintains at least one table, see (FIG. 3 and col. 8, lines 36-51).

With respect to claim 3 and 18, Burns discloses that the table is accessed upon an attempted deletion or updating of a tuple references by a link, and the attempted deletion or updating is selectively disallowed base on the table, see (col. 4, lines 8-29 and col. 4, lines 32-59).

With respect to claim 4, 14 and 19, Burns discloses that the software layer includes at least one stored procedure accessible by an application to insert, update, or delete a tuple while ensuring referential integrity in heterogeneous links associated with the tuple, see (col. 4, lines 32-67 to col. 5, lines 1-53).

With respect to claim 5, Burns discloses the computer-implemented method for preventing dangling pointers in heterogeneously scoped links (col. 11, lines 10-22), comprising the acts of:

providing at least one heterogeneously scoped link (HSL) table (FIG. 3 and col. 8, lines 35-67 to col.9, lines 1-39), at least one table having a heterogeneously scoped link column (63. FIG. 3 and col. 8, lines 37-67), the HSL table being associated with the heterogeneously scoped link column, see (col. 9, lines1-21, Note: as explained as claim 1 above); and

accessing the HSL table to ensure referential integrity in an RDBMS, see (col. 9, lines 1-21).

With respect to claim 6, Burns discloses that the HSL table is accessed when a link attribute is sought to be changed, see (col. 8, lines 37-67 to col. 9, lines 1-21 and col. 9, lines 40-67 to col. 10, lines 1-27).

With respect to claim 7, Burns discloses that the HSL table is accessed when a tuple is sought to be changed or deleted, see (col. 8, lines 37-67 to col. 9, lines 1-21 and col. 9, lines 40-67 to col. 10, lines 1-27).

With respect to claim 8, Burns discloses that the HSL table is established by an RI table, see (col. 8, lines 37-67 to col. 9, lines 1-21).

With respect to claim 9, Burns discloses that at least one trigger useful in selectively disallowing operations, see (col. 8, lines 37-67 to col. 9, lines 1-21).

With respect to claim 10, Burns discloses that at least one procedure accessible by an application to insert, update, or delete a tuple while ensuring referential integrity in heterogeneous links associated with the tuple, see (col. 8, lines 37-67 to col. 9, lines 1-21 and col. 9, lines 40-67 to col. 10, lines 1-27).

With respect to claim 11, Burns discloses the computer program product including computer usable code means programmed (col. 1, lines 19-21) with logic for ensuring referential integrity (col. 10, lines 1-4) in an RDBMS (col. 8, lines 14-23) having

at least one column of heterogeneous scoped links (FIG. 3 and col. 1, lines 60- 67 to col. 2, lines 1-26) the program product comprising:

computer readable code means for maintaining a tables, see (FIG. 3 and col. 8, lines 36-67); and

computer readable code means for using thee table to ensure that operations on tuples do not result in a heterogeneous scoped link pointing to no tuple (no dangling pointer), see (col. 11, lines 1-22).

With respect to claim 12, Burns discloses the computer readable code means for establishing at least one trigger useful in cooperation with the table for selectively disallowing operations, see (col. 4, lines 8-29, col. 14, lines 25-33 and col. 4, lines 32-59).

With respect to claim 13, Burns discloses the computer readable code means for establishing at least one trigger; delete trigger, ad an update trigger, see (col. 4, lines 8-29, col. 14, lines 25-33 and col. 4, lines 32-59).

With respect to claim 15 (as renumbered), Burns discloses the system for supporting trigger, comprising:

RDBMS (col. 1, lines 44-59) providing referential integrity (col. 1, lines 60-67 to col. 2, lines 1-19 and col. 10, lines 31-60) for homogeneous links (col. 2, lines 55-67 to col. 3, lines 1-54), and

software ware layer on top of the RDBMS for causing RDBMS to support triggers, see (col. 14, lines 25-33).

With respect to claim 16 (as renumbered), Burns discloses that the software layer maintains at least one table (FIG. 3 and col. 8, lines 36-51) and establishes at least one trigger, see (col. 14, lines 25-33).

With respect to claim 17 (as renumbered), Burns discloses that the software layer establishes at least one of: a delete trigger, and an update trigger, see (col. 14, lines 25-33; col. 8, lines 37-67 to col. 9, lines 1-21 and col. 9, lines 40-67 to col. 10, lines 1-27).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cabrera et al (U.S. Patent No. 6,029,160) discloses system for data links between data type references.

Vijaykumar (U.S. Patent No. 5,745,896) discloses system for relational database management with data integrity.

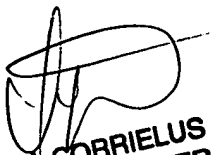
Carino, Jr. (U.S. Patent No. 6,067,542) discloses system for data query optimization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M Woo whose telephone number is (703) 305-0081. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

IMW
July 2, 2002



JEAN M. CORRIELUS
PRIMARY EXAMINER